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A NEW SPECIES OF THE GENUS *PHILOMEDES* LILLJEBORG (OSTRACODA : MYODOCPINA) FROM SURUGA BAY, CENTRAL JAPAN

With 5 Text-figures and 1 Table

by

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駿河湾産カイミジンコ *Philomedes* 属の1新種

挿図 5, 表 1

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Abstract: A new species of the genus *Philomedes* is reported from Suruga Bay. The new species belongs to the species group possessing five or more elongate pegs on the seventh limb, but is distinguished from other members by the number of cleaning bristles on the seventh limb.

In the present paper, as the fourth report of taxonomic works on myodocopid Ostracoda from Suruga Bay (HIRUTA, 1981a, 1981b, 1982), a new species of the genus *Philomedes* LILLJEBORG, 1853 is described based upon one ovigerous female specimen collected by the surveys for benthos around Suruga Bay, which were carried out by the staffs of the Marine Ecology Division of the Ocean Research Institute, University of Tokyo on boad the *R/V Tansei-Maru.*

Before going further, I would like to express my thanks to Professor Masuoki HORIKOSHI of Chiba University and Dr. Suguru OHTA of the Ocean Research Institute, University of Tokyo, who gave me the opportunity to examine the specimen reported in this paper.

Philomedes horikoshii new species

(Figs. 2～5)

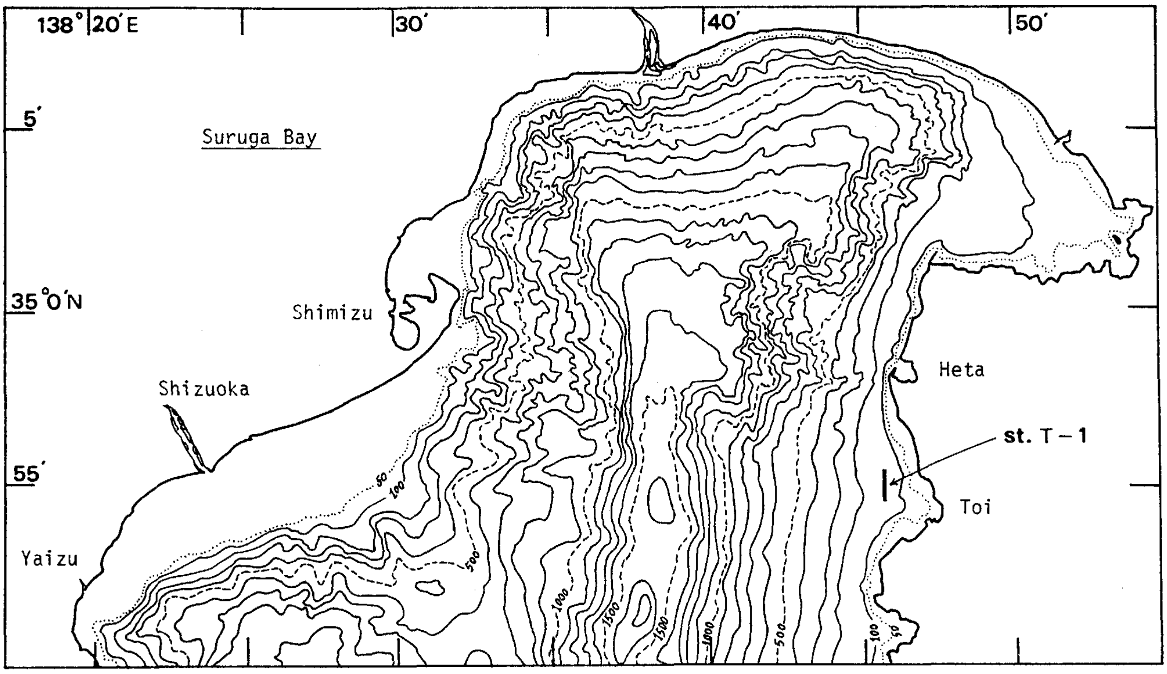

Fig. 1. Location of the sampling station.

Specimens examined. Holotype: ovigerous female, coll. by beam trawl of a 2 m span at St. T-1 on September 20, 1976, during the cruise KT-76-16. *Type locality.* Suruga Bay: off Toi, St. T-1 (34°54.6′N 138°45.8′E-34°55.4′N 138°45.8′E); depth 125∼130 m; mud. *Ethymology.* The name of the species was selected in honour of Professor M. HORIKOSHI of Chiba University. Type specimen deposited in the Zoological Institute, Faculty of Science, Hokkaido University.

Description.

Female: Carapace (Fig. 2-1∼3) 2.20 mm in length, 1.45 mm in height, somewhat elongate oval in lateral view with prominent rostrum, which has small process on surface near anteroventral corner and small semitriangular caudal process. Shell surface covered with a number of spines or setae of different lengths and small shallow fassae (Fig. 2-5). Infold of rostrum with 18 (right) or 19 (left) long bristles along dorsal and anterior margins and 2 spaced short bristles on ventral margin; one minute bristle present near ventral corner of incisur; anteroventral infold with about 12 striations; anteroventral list with 11 short bristles; ventral infold narrow, without bristles; posterior infold with "pocket"; 6 (right) or 5 (left) short bristles present on anterior margin of pocket. Selvage with lamellar prolongation having hairs along outer margin; lameller prolongation of rostrum and incisur broad, with long hairs along outer margin (Fig. 2-4).

First antenna (Fig. 3-1). First segment as long as second; second segment with 3 bristles, 1 dorsal, 1 lateral, 1 ventral; third segment one-fifth length of second,

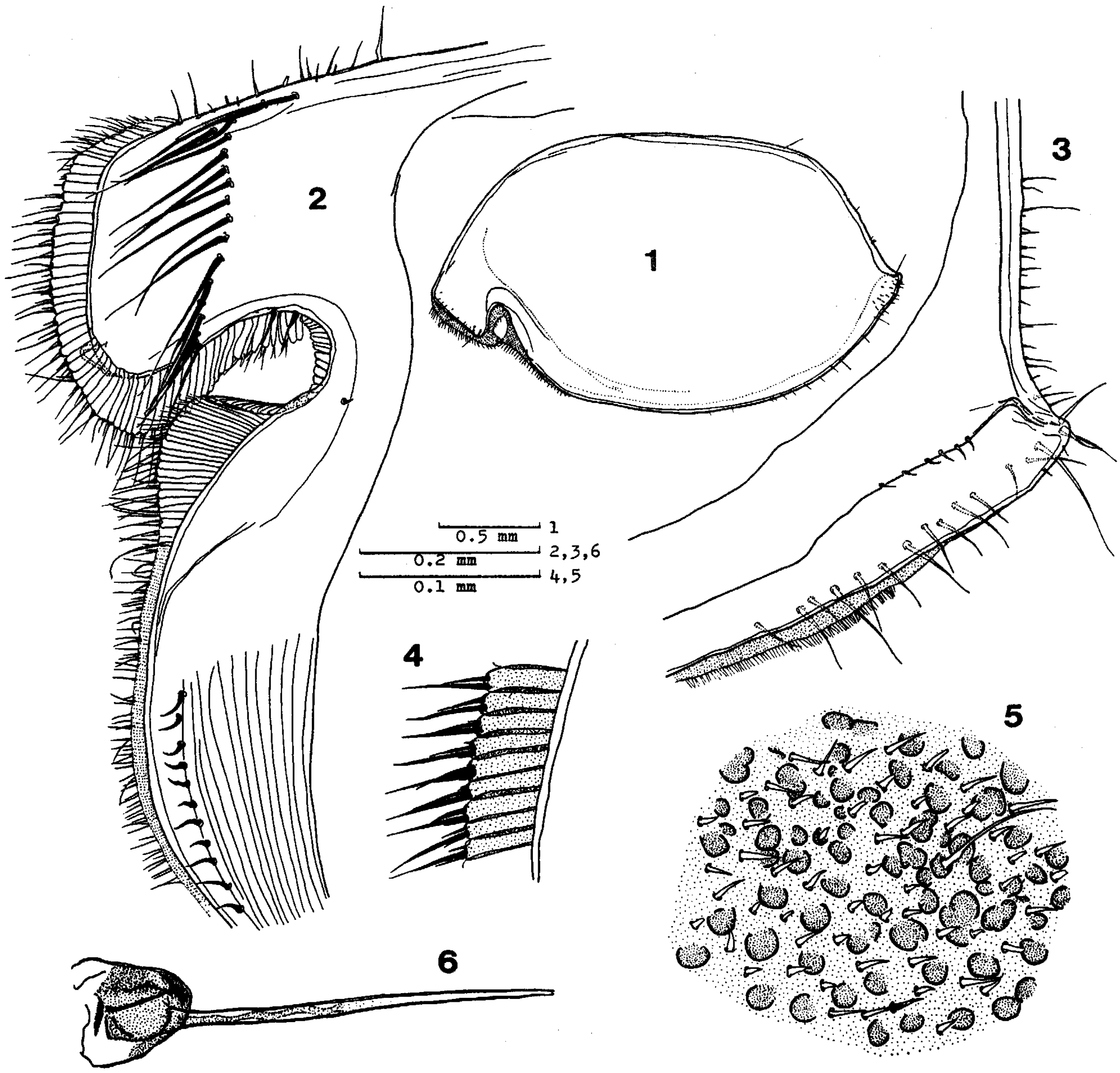

Fig. 2. ***Philomedes horikoshii*** new sp. Female (Holotype). 1. Lateral view of left valve; 2. Medial view of anterior part of right valve; 3. Medial view of posterior part of right valve; 4. Lamellar prolongation of anterior margin of rostrum; 5. Surface structure of valves; 6. Bellonci organ and median eye.

with 2 dorsal bristles, of which proximal one is very short, and 1 ventral brislte; fourth segment twice as long as third, with 1 dorsal bristle and 3 ventral bristles; fifth segment as long as fourth, with long sensory bristle which has several proximal and terminal filaments; sixth segment very short, with slender medial bristle which is about 1.5 times as long as fifth segment. Seventh segment: a-bristle about 1.7 times as long as bristle of sixth segment; b-bristle shorter than sensory bristle of fifth segment, with terminal filaments; c-bristle almost same structure and length as sensory bristle. Eighth segment: d- and e-bristles bare, about same length as sensory bristle; f- and g-brisltes almost same structure and length as sensory bristle.

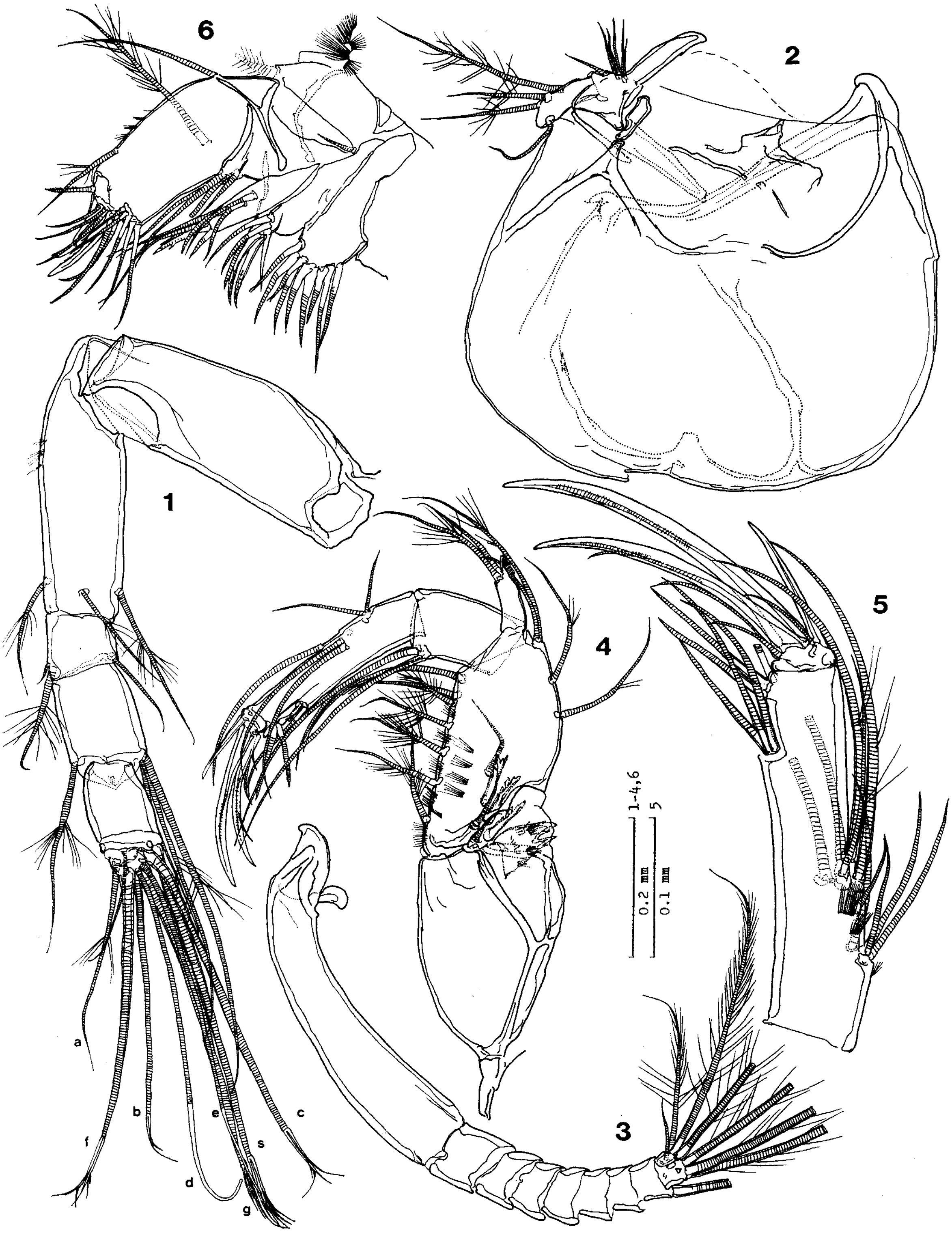

Fig. 3. *Philomedes horikoshii* new sp. Female (Holotype). 1. First antenna; 2. Second antenna, protopodite and endopodite; 3. Ditto, exopodite; 4. Mandible (left); 5. Distal part of mandible (right); 6. Maxilla.

Second antenna (Fig. 3-2, 3). Endopodite two-segmented; first segment with six bristles, 5 proximal, 1 distal; second segment elongate terminating in a round tip, with 3 bristles of different lengths on anterior margin and 1 subterminal bristle on posterior margin. Exopodite: first segment about about 1.5 times as long as following segments combined; end segment with 7 bristles, 1 very short, 2 medial with natatory hairs, and 4 long with natatory hairs.

Mandible (Fig. 3-4, 5). Coxale endite bifurcate, with spines and stiff hairs on surface, and minute bristle near base. Basale: dorsal margin with 2 spaced proximal bristles of equal length and 2 terminal bristles of which one is twice as long as the other; medial surface hirsute, with 6 bristles of which 3 are claw-like with secondary teeth; ventral margin with 7 bristles of which distalmost one is much longer than others; outer and ventral surface with clusters of hairs. Exopodite about two-thirds length of dorsal margin of first endopodite segment, with 2 subterminal brisltes of different lengths; distal half of dorsal surface hirsute. Endopodite: first segment about half the length of basale, with 4 ventrodistal bristles, 1 short, 1 medial, and 2 long; second segment twice as long as first, with 10 dorsal bristles forming two groups, 4 proximal, 6 distal, and 6 ventral bristles, of which 3 arise from distal one-fifth and 3 from distal edge; third segment small, with 3 claws, of which dorsal one is short, and 4 bristles of different lengths.

Maxilla (Fig. 3-6; Fig. 4-1). Coxale with 1 hairy dorsodistal bristle; first endite with 9 bristles; second endite with 6 bristles; third endite with 1 proximal and about 9 distal bristles. Basale with 3 bristles, 1 dorsal, 2 ventral. Exopodite with 3 bristles, 2 long, 1 short. Endopodite: first segment with 1 α-bristle and 5 β-bristles; end segment small, with 3 stout claw-like bristles and total 10 annulated bristles forming 3 groups (1+5+4) on distal surface.

Fifth limb (Fig. 4-2, 3). First exopodite segment with 2 bristles on middle of anterodistal margin; detailed structure of main tooth not clearly detected; second exopodite segment with large tooth and hairy bristle on near distolateral corner; outer lobe of third exopodite segment with 2 bristles, inner lobe with 3 bristles. Fused fourth and fifth exopodite segments with 6 bristles of different lengths on distal margin. First endite with 6 bristles; following 2 endites with about 20 bristles.

Sixth limb (Fig. 4-4). Epipodial appendage with 4 bristles; first endite with 3 bristles of which proximalmost one is more than twice as long as others; second endite with 1 proximal and 3 distal bristles; third and fourth endites each with 1 proximal and 8 distal bristles; end segment semitriangular, hirsute, with 31 or 33 bristles; all bristles on sixth limb with hairs.

Sevednth limb (Fig. 5-1, 2). Each limb with 6 proximal and 3 distal bristles on peg side and 5 proximal and 2 distal bristles on comb side; each bristle with 5 or 6 bells; terminal comb with about 13 teeth; 9 pegs present oppsite comb.

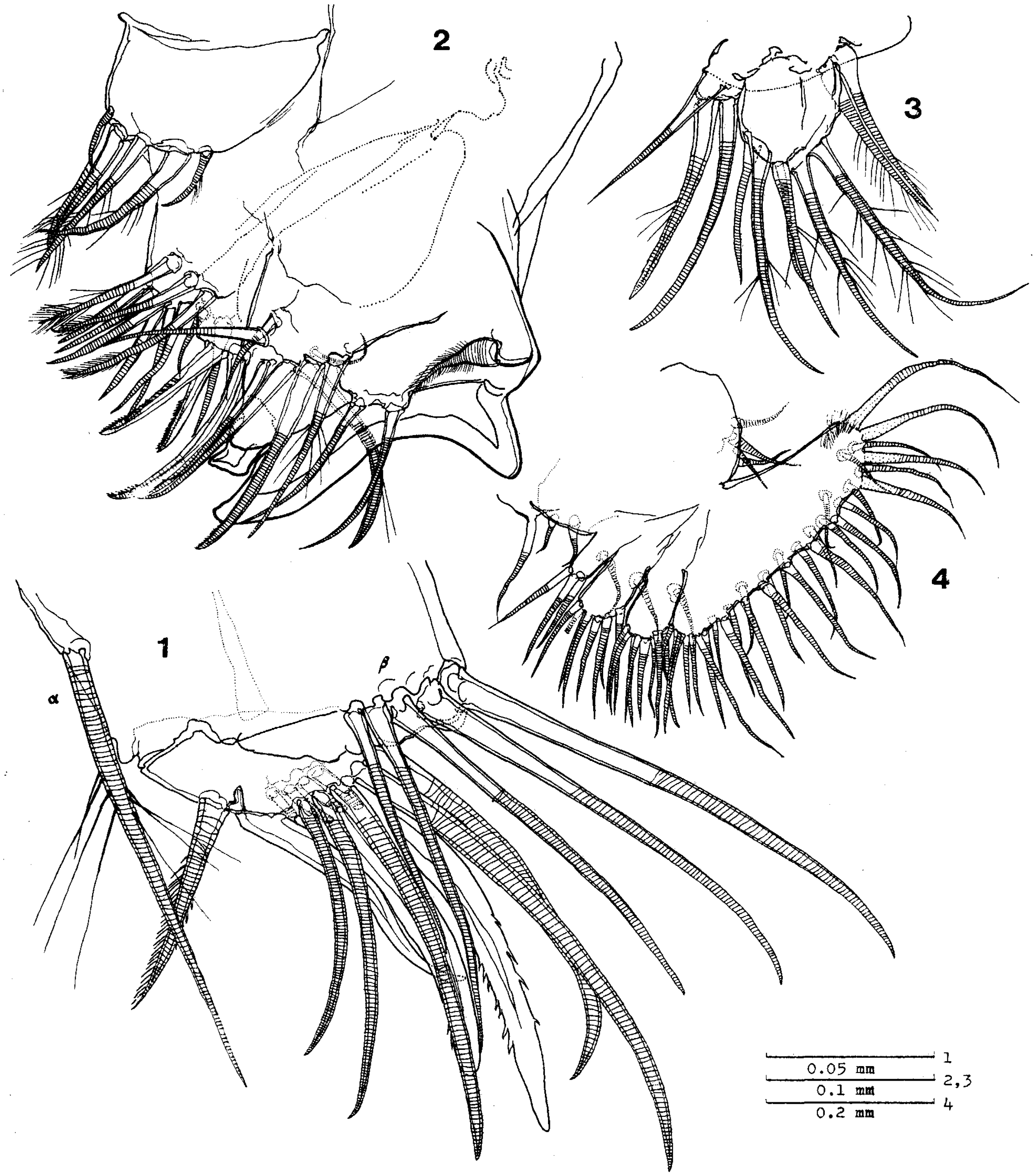

Fig. 4. *Philomedes horikoshii* new sp. Female (Holotype). 1. Distal part of maxillar endopodite; 2. Fifth limb, distal part; 3. Ditto, third to fused fourth and fifth exopodite segments; 4. sixth limb.

Furca (Fig. 5–3). Each lamella with 11 claws decreasing in length proximally; each claw with teeth or spines along posterior margin and cluster of long hairs medially at its base.

Genitalia and *brush-like organ* (Fig. 5–3,4). Round genitalia on each side present in front of furca; brush-like organ consisting of 7 short bristles present above genitalia.

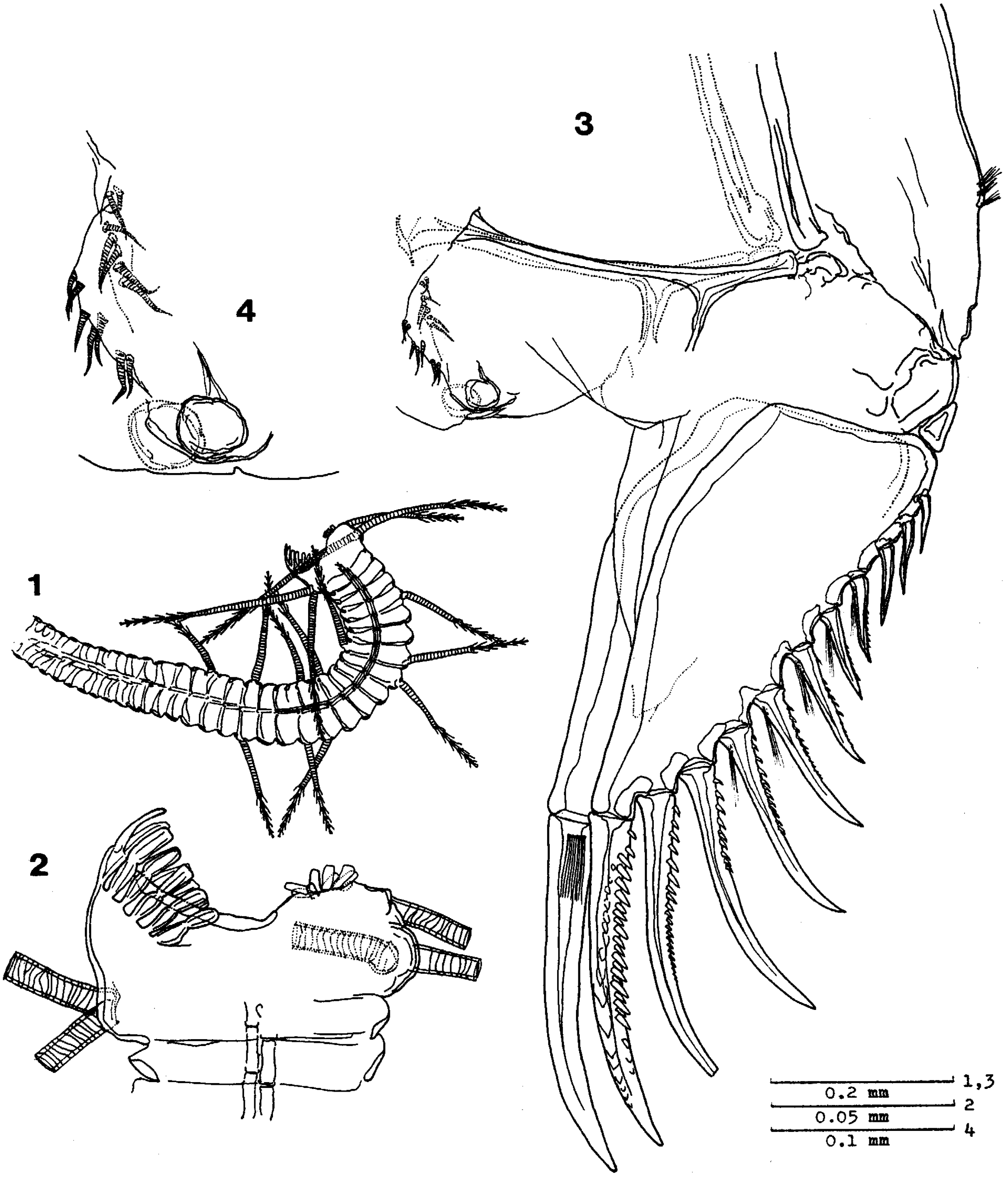

Fig. 5. *Philomedes horikoshii* new sp. Female (Holotype). 1. Seventh limb; 2. Ditto, distal part; 3. Furca, genitalia, and brush-like organ; 4. Genitalia and brush-like organ.

Bellonci organ and *median eye* (Fig. 2-6). Bellonci organ elongate, slender, without suture; median eye with brown pigments. *Lateral eye* not observed. 11 *eggs* present in brood pouch.

Male unknown.

Remarks. As the fourteenth member, the present new species with 9 pegs on the

Table 1. Some appendage characteristics of adult females (in *P. vitjaziensis*:

Philomedes		*horikoshii*	*bonneti*	*tetradens*	*albatross*	*subantarctica*
Carapace length (mm)		2.20	1.99	2.16～2.20	2.49	2.60～2.70
1st antenna no. of bristles on dorsodistal edge of 3rd segment		2	3	3	2	2
no. of bristles on ventrodistal edge of 4th segment		3	4	4	4	4
2nd antenna no. of bristles on 1st endopodite segment		6 (5+1)	6 (5+1)	6 (5+1)	6 (5+1)	8～9 (5～6+2～4)
no. of bristles on anterior margin of 2nd endopodite segment		3	3	4	1	4
Mandible no. of bristles on dorsal margin of basale		4	5	6	4	5～6
Maxilla no. of β-bristles on 1st endopodite segment		5	5	4	5	?
7th limb no. of bristles	distal	5	5	5	8～9	5
	proximal	11	4	4	19～23	22～23
no. of teeth		ca. 13	11～17	ca. 12	10～15	13～14
no. of pegs		9	8～10	6 or 7	5～7	11
Furca no. of claws		11	10	10	10, 11	10 or 11
Source		HIRUTA herein	KORNICKER (1977)	KORNICKER (1977)	KORNICKER (1982)	KORNICKER (1975)

seventh limb belongs to a species group which is characterized by having "five or more elongate pegs opposite the comb of the seventh limb" (KORNICKER, 1977, 1982). The present new species is clearly distinguished from other members of this group by the morphology of the seventh limb. As shown in Table 1, among these species, following four species have five distal cleaning bristles on the seventh limb as in the present new species: *Ph. bonneti* KORNICKER, 1977, *Ph. tetradens* KORNICKER, 1977, *Ph. subantarctica* KORNICKER, 1975, and *Ph. lilljeborgii* SARS, 1865. However, *Ph. horikoshii*

A-1 male) with 5 or more elongate pegs opposit comb of 7th limb.

curvata	*orbicularis*	*lilljeborgii*	*subarcuata*	*brachystylus*	*multidentata*	*longidentata*	*vitjaziensis*	*hanaii*
2.9	2.6	2.15~2.6	2.5~3.3	2.9~3.3	3.8~4.1	1.9~2.7	A-1♂ 2.3	2.5~2.6
2	2	3	?	2	3	2	3	2
4	3	4	4	4	4	3	3	4
6 (5+1)	5 (4+1)	6 (5+1)	6 (5+1)	6 (5+1)	6 (5+1)	5 (4+1)	6 (5+1)	6 (5+1)
2	2	4	1	1	1	1	3	1
3	4	7	4	4	4	4	6	4
5	4	5	5	5	5	4	4	?
10	36~43	5	20~23	10~13	11	11	9	10~11
14~16		5	16~18	29~36	34~35	23~24	12~14	18~19
12~14	9~15	11~17	7~13	12~15	15~16	10~11	10	8
8	7~12	8~10	5	7	10~11	6~7	7	5
14 or 15	11~13	10	10~11	10	10~11	10~11	12	10, 11
POULSEN (1962)	KORNICKER (1971, 1975)	SKOGSBERS (1920)	CHAVTUR (1983)	CHAVTUR (1983)	CHAVTUR (1983)	CHAVTUR (1983)	CHAVTUR (1983)	CHAVTUR (1983)

n. sp. differs from these four species in the number of proximal cleaning bristles: namely, this new species has 11 bristles, while these four species have 4, 4, 22-23, and 5 bristles respectively. Apart from the morphology of the seventh limb, *Ph. horikoshii* n. sp. also differs from thirteen other species in having a different combination of appendage characteristics as shown in the table.

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要　約

東京大学海洋研究所海洋生物生態部門（代表者：堀越増興「現在千葉大学理学部」）による駿河湾における底棲生物の調査から得られた Myodocopina 亜目のカイミジンコの第4報として，1新種 *Philomedes horikoshii* を雌1個体の標本を基に記載した。本種は調査航海 KT-76-16 の際，土肥沖 125-130 m の海底（St. T-1）から，2 m 幅ビームトロールによって採集された。体長 2.20 mm 体高 1.45 mm. 第7肢末端部に9本の pegs を有し，5本以上のやや長い pegs を有する種群（参照，KORNICKER, 1982）に属することになるが，この種群の他種とは第7肢の剛毛の数によって区別できる。